

**REMARKS**

The above amendments and these remarks are responsive to the Office Action issued on February 2, 2005. By this response, claims 13-16 and 26-28 are amended. No new matter is added. Claims 1-10 and 12-28 are now active for examination. A Request for Continued Examination is filed concurrently herewith.

**The Office Action**

The Office Action dated February 2, 2005 rejected claims 26 and 27 under 35 U.S.C. §102 (b) as being anticipated by Jackson (U.S. Patent No. 5,724,743). Claims 1-9, 12, 13, 17-25 and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jackson (U.S. Patent No. 5,724,743) in view of Butler (U.S. Patent No. 4,718,759). Claim 10 stood rejected under 35 U.S.C. § 103(a) as being unpatentable over Jackson and Butler and further in view of Stam et al. (U.S. Patent No. 5,923,027). Claims 14-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jackson and Butler and further in view of Mathes et al. (U.S. Patent No. 4,457,172). The rejections are respectfully traversed in view of the claim amendment and remarks presented herein.

**The Obviousness Rejection of Claims 1-9, 12, 13, 17-25 and 28 Is Overcome**

Claims 1-9, 12, 13, 17-25 and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jackson in view of Butler. It is respectfully submitted that the obviousness rejection is overcome because Jackson and Butler cannot support a prima facie case of obviousness.

Claim 1 describes a position determination system, such as an aligner, that includes at least one invisible light emitting diode configured to emit strobed invisible light thereby

illuminating a optically scannable target such that the light is retro-reflected to a image sensing device and forms an image of the target. A visible indicator is provided to indicate whether the at least one invisible light emitting diode is operative.

In rejecting claim 1, the Office Action asserted that monitor 119 in Jackson is similar to the “visible indicator” describe in claim 1, and thus the aligner system described in Jackson and the invisible light emitting diodes described in Butler, if combined, disclose every limitation of claim 1. Applicants respectfully disagree.

According to Jackson, monitor 119 is used to display an alignment result. As Jackson’s system does **not** use any invisible light emitting diode, monitor 119 does **not** indicate any status related to any invisible light emitting diode. The other reference, Butler, was relied on by the Office Action for using both visible and invisible light sources to provide track references. Similar to Jackson, Butler does **not** specifically describe or suggest that a visual indictor should be provided to indicate the operation status of the invisible light source. Accordingly, Jackson and Butler, even combined, do not teach every limitation of claim 1 and thus cannot support a prima facie case of obviousness. The obviousness rejection is untenable and should be withdrawn. Favorable reconsideration of claim 1 is respectfully requested.

Claim 17 is a means-plus-function claim that includes descriptions similar to those of claim 1. Consequently, for at least the same reasons as for claim 1, claim 17 also is patentable over Jackson and Butler. Favorable reconsideration of claim 17 is respectfully requested.

Claims 2-9, 12 and 18-25, directly or indirectly, depend on claims 1 and 17, respectively, and incorporate every limitation thereof. Accordingly, the obviousness rejection of claims 2-9, 12 and 18-25 also is overcome for at least the same reasons as for claims 1 and 17, as well as

based on their own merits. Favorable reconsideration of claims 2-9, 12 and 18-25 is respectfully requested.

Independent claim 13 was also reject as being unpatentable over Jackson. The obviousness rejection is respectfully traversed because Jackson cannot support a prima facie case of obviousness.

Claim 13, as amended, describes a camera-based position determination system for measuring positional parameters of a target object by viewing an optically scannable target device fixedly attached to the target object. The system includes at least one camera and light subsystem, each subsystem comprises an image sensing device for viewing the target device and to generate image information indicative of geometric characteristics of the target device; and at least one light emitting diode configured to emit strobed light illuminating the target device. A data processing device, such as a computer, is provided to determine the orientation of the target object based on the target image. The system further includes a target object indicator, disposed on the camera and light subsystem, to display the status of target acquisition by the data processing device, wherein the status of target acquisition indicates whether an obtained image of the scannable target device is acceptable.

In contrast, although “the computer” in Jackson may arguably provide an indication with respect to whether an obtained image is acceptable, Jackson, at best, suggest that such indication should be displayed on a screen of “the computer,” and does **not** specifically teach that the target object indicator should be disposed on camera and light subsystem, as described in claim 13.

Similar to Jackson, Butler does not specifically describe or suggest that the target object indicator should be disposed on camera and light subsystem, as described in claim 13.

Accordingly, Jackson and Butler, even combined, do not teach every limitation of claim 13 and

thus cannot support a prima facie case of obviousness. The obviousness rejection is untenable and should be withdrawn. Favorable reconsideration of claim 13 is respectfully requested.

Claim 28 depends on claim 13 and incorporates every limitation thereof. By this Response, claim 28 is rewritten into independent form including every limitation of claim 13. Claim 28 describes providing directional means for indicating the direction in which the target object should be repositioned, and for indicating whether the target object has been properly positioned. This feature is not available in Jackson. Therefore, claim 28 is patentable over Jackson and Butler. Favorable reconsideration of claim 28 is respectfully requested.

**The Obviousness Rejection of Claim 10 Based on Jackson, Butler and Stam Is Traversed**

Claim 10 was rejected as being obvious over Jackson and Butler and further in view of Stam. The obviousness rejection is respectfully traversed because Jackson, Butler and Stam cannot support a prima facie case of obviousness.

Claim 10 depends on claim 1 and further describes that the image sensing device is a complimentary metal oxide semiconductor (CMOS) camera. As discussed earlier, both Jackson and Butler fail to teach a visible indicator for indicating whether the at least one invisible light emitting diode is operating properly, as described in claim 10 through its dependency from claim 1. Stam also fails to teach or suggest this feature. Therefore, Jackson, Butler and Stam, even if combined, do not teach every limitation of claim 10. Accordingly, Jackson, Butler and Stam cannot support a prima facie case of obviousness. The obviousness rejection of claim 10 is untenable and should be withdrawn. Favorable reconsideration of claim 10 is respectfully requested.

### **The Obviousness Rejection of Claims 14-16 and 28 Is Traversed**

Claims 14-16 were rejected as being obvious over Jackson and Butler and further in view of Mathes. It is respectfully submitted that the obviousness rejection is overcome because Jackson, Butler and Mathes cannot support a prima facie case of obviousness.

Claims 14-16, directly or indirectly, depend on claim 13 and incorporate every limitation thereof. Claim 14 further describes that the target object indicator is configured to provide an indication for each target object to indicate whether the obtained image of each respective target object is acceptable. Claim 15 describes that the system of claim 13 further includes a directional indicator for indicating a manner by which the target object should be manipulated, such as moving the object or turning a part of the object. Claim 16 depends on claim 15 and further describes that the target object is a vehicle; and the directional indicator indicates whether the vehicle should be moved forward or backward, or whether a wheel of the vehicle should be steered right or left.

It is respectfully submitted that Jackson, Butler and Mathes, singularly or in combination, fails to specifically teach or suggest these features. Consequently, claims 14-16 are patentable over Jackson for at least the same reasons as for claim 13, as well as based on their own merits. Favorable reconsideration of claims 14-16 is respectfully requested.

### **The Anticipation Rejection of Claims 26 and 27 Is Traversed**

Claims 26 and 27 were rejected as being anticipated by Jackson. Applicants respectfully submit that the anticipation rejection is overcome because Jackson cannot support a prima facie case of anticipation.

Claim 26 describes an image-based position determination system, such as an aligner, that includes a camera and light subsystem, each subsystem having an image sensing device

configured to view a target device and to generate image information indicative of geometric characteristics of the target device, and at least one light emitting diode configured to emit strobed light thereby illuminating the target device. The camera and light subsystem further includes a visual indicator for indicating a direction by which the object should be moved relative to the image sensing device, such that the object or target can be properly viewed by the image sensing device. For example, directional LEDs 670, 675, 680, 685 in Fig. 6 inform the technician as to whether the vehicle should move forward, backward, or be steered left or right in order to be viewed by the camera. Claim 27 is a means-plus-function claim that includes descriptions comparable to those of claim 26.

In asserting that claims 26 and 27 are anticipated by Jackson, the Examiner merely replicated the claim language and pointed to various paragraphs in Jackson without providing any discussions and arguments on what components in Jackson's system correspond to which claim elements and how. It is respectfully pointed out that the Examiner's duty to establish a prima facie case of rejection has not been relieved.

The various paragraphs cited by the Examiner to support the purported anticipation rejection merely describe calculation of relative positions between cameras, and does not describe an image-based position determination system that includes a camera and light subsystem having a visual indicator for indicating a direction by which the object should be moved relative to the image sensing device, as described in claims 26 and 27. Since Jackson fails to teach every limitation of claims 26 and 27, the anticipation rejection based on Jackson is untenable and should be withdrawn. Favorable reconsideration of claims 26 and 27 is respectfully requested.

**Conclusion**

For the reasons given above, Applicants believe that this application is conditioned for allowance and Applicants request that the Examiner give the application favorable consideration and permit it to issue as a patent. However, if the Examiner believes that the application can be put in even better condition for allowance, the Examiner is invited to contact Applicants' representatives listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Recognized under 37 CFR §10.9(b)

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